

REMARKS

The claims as revised now reflect the fact that the phenols are those selected from biomass derived or plant materials; that applicants' process is a selective absorption process and not a recovery process of removing phenols contained in fossil-fuels (such as coal); and that the metal oxide of which the plant-derived phenols are adsorbed is titanium dioxide, vanadium oxide and zirconium oxide.

The invention process differs from US 4595489 A and EP 0 112 723 A in that:

A. While coals are technically biomass-derived, these are fossil-fuel; "biomass derived phenols" distinguish our target molecules from fossil fuels phenols and the application process now claims removal of guaiacol, syringol, isolugenol, vanillin, and lignin; these phenols are found in all types of terrestrial plant biomass;

B. The above referenced patents work through the formation of insoluble metal phenolates and removal by filtration; the invention removes phenols through a process of selective adsorption on the metal oxide surface. There is a special affinity of plant-derived phenols for the metal oxides in the invention process.

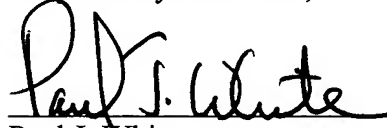
C. The above referenced patents remove 3-10% of phenols through interaction with metal oxides. The invention process removes phenols to levels below the detection limits of analysis. This efficiency is due at least in part to the affinity for methoxylated, biomass-derived phenols for metal oxides now specifically claimed. Further, this efficiency for adsorption with the biomass-derived phenols now claimed is not taught in the referenced patents.

D. Although both processes accomplish phenol removal and phenol recovery, the references' process relates to phenol recovery, while the invention process relates to and

optimizes efficiency of phenol removal.

It is respectfully requested that, prior to taking this application up for examination on the merits, the foregoing considerations be factored into account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul J. White", is written over a horizontal line.

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